Maryland HIV/AIDS Epidemiological Profile

First Quarter 2012

Data reported through March 31, 2012

Center for HIV Surveillance, Epidemiology and Evaluation
Infectious Disease Bureau
Prevention and Health Promotion Administration
Maryland Department of Health and Mental Hygiene
http://ideha.dhmh.maryland.gov/oideor/chse
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Section I – Background Information

HIV/AIDS Reporting Requirements

The Maryland HIV/AIDS Reporting Act of 2007 went into effect on April 24, 2007. The law expanded HIV/AIDS reporting and required that HIV cases be reported by name. The following highlights the reporting requirements of Health-General Articles 18-201.1, 18-202.1, and 18-205 of the Annotated Code of Maryland, as specified in COMAR 10.18.02.

- Physicians are required to report patients in their care with diagnoses of HIV or AIDS immediately to the Local Health Department where the physician's office is located by mailing DHMH Form 1140. Reports are also accepted by phone.

- Physicians are required to report infants born to HIV positive mothers within 48 hours to the State Health Department by mailing DHMH Form 1140. Reports are also accepted by phone.

- Clinical and infection control practitioners in hospitals, nursing homes, hospice facilities, medical clinics in correctional facilities, inpatient psychiatric facilities, and inpatient drug rehabilitation facilities are required to report patients in the care of the institution with diagnoses of HIV or AIDS within 48 hours to the Local Health Department where the institution is located by mailing DHMH Form 1140. Reports are also accepted by phone. Facilities with large volumes are encouraged to contact the State Health Department to establish electronic reporting.

- Laboratory directors are required to report patients with laboratory results indicating HIV infection (e.g., positive confirmatory HIV diagnostic tests, all CD4 immunological tests, all HIV viral load tests, and all HIV genotype and phenotype tests) within 48 hours to the Local Health Department where the laboratory is located, or if out of state to the Maryland State Health Department, by mailing DHMH Form 4492. Laboratories are encouraged to contact the State Health Department to establish electronic reporting.

Reporting forms and instructions are available at: http://ideha.dhmh.maryland.gov/chse/reporting-material.aspx

For Assistance with HIV/AIDS Reporting

For assistance with reporting, including establishment of routine, electronic, or other alternate methods of reporting to the Health Department, please contact the Center for HIV Surveillance, Epidemiology and Evaluation at the Maryland Department of Health and Mental Hygiene (410-767-5061).

Limitations in the HIV/AIDS Data

This epidemiological profile only contains data for HIV and AIDS cases that have been diagnosed by a health care provider, were reported to the health department by name, and were residents of Maryland at the time of diagnosis. Nationally, it has been estimated that 20% of people living with HIV infection are undiagnosed. In addition, despite a massive effort during which over 17,000 HIV cases were reported after the Maryland HIV reporting law changed on April 24, 2007, not all diagnosed HIV cases previously reported by Maryland's code-based identifier were located and re-reported by name, so the number of living HIV cases is lower than previously reported. In addition, many of the re-reported HIV cases were identified by a recent diagnosis and not by their earliest diagnosis, resulting in an under-reporting of HIV diagnoses before 2001 and an over-reporting of HIV diagnoses from 2001 to 2008. Caution should be exercised in using the number of living HIV cases without AIDS and in interpreting trends in the number of reported HIV diagnoses. In addition, the laboratory data are only available for cases receiving medical care, usually only at facilities in Maryland, and only includes test results that have been reported to the health department.

Stages of a Case of HIV/AIDS

Untreated HIV disease progresses from HIV infection to AIDS to death. These are biological events that occur whether or not a person receives any medical care. For example, a person can be HIV infected but never have an HIV test and so they do not have an HIV diagnosis. A medical provider diagnoses that these biological events have occurred and records them as a medical event. The law requires medical providers to report these medical events to the Health Department, thereby creating a surveillance event.

Time Point	Biological Event	Medical Event	Surveillance Event
1	HIV Infection		
2		HIV Diagnosis	
3			HIV Report
4	AIDS Conditions		
5		AIDS Diagnosis	
6			AIDS Report
7	Death		
8		Death Diagnosis	
9			Death Report

A case of HIV/AIDS can only move through time in one direction, from HIV infection to death report [from time point 1 to time point 9], but may skip over individual stages. Events can occur simultaneously, but usually there is a time lag between them. The time lag between events can be measured in days, months, and years.

For example, the time between HIV infection [time point 1] and the test that diagnoses HIV [time point 2] may be several years, and it may then take several days for the laboratory and physician to report the diagnosis to the health department [time point 3]. In a second example, a person with diagnosed and reported HIV infection [time point 3] may die [time point 7] without developing AIDS, thereby skipping the three AIDS events (conditions, diagnosis, and report [time points 4, 5 and 6]). And in a third example, a person with undiagnosed HIV infection [time point 1] may become sick, enter the hospital, and die [time point 7] of what is later determined to be AIDS. In that situation, HIV diagnosis [time point 2], AIDS diagnosis [time point 5], and death diagnosis [time point 8] would all occur at the same time, and that would probably be many years after the initial HIV infection [time point 1].

Changes in Case Terminology

The terminology for HIV and AIDS cases was changed from earlier epidemiological profiles to be more precise, with Reported Diagnoses replacing Incidence and Living Cases replacing Prevalence. Incidence is a measure of the number of new events (such as HIV infections) in a population during a period of time. Prevalence is a measure of the number of people living with a condition (such as HIV) in a population at a certain time. Prevalence includes both new and old cases. For HIV, Incidence and Prevalence cannot be directly measured and must be estimated using statistical methods. The HIV surveillance system is able to provide the actual number of diagnoses and deaths that are reported in the population.

For this epidemiological profile, the reports received through a certain time (the end of the first quarter) are used to generate the number of diagnoses during the prior years. This one year lag allows for delays in reporting and time to complete investigations. For example, the Reported HIV Diagnoses for 4/1/2010-3/31/2011 are the total of the reported HIV cases with or without an AIDS diagnosis, diagnosed with HIV during 4/1/2010-3/31/2011, as reported by name through 3/31/2012.

To calculate the number of Living Cases we count up all of the Reported Diagnoses from the beginning of the epidemic (all the new cases each year) and subtract all of the Reported Deaths. For example, the Total Living HIV Cases on 3/31/2011 are the total of the reported HIV Cases with or without an AIDS diagnosis and not reported to have died as of 3/31/2011 as reported by name through 3/31/2012.

Changes in this Epidemiological Profile

This quarterly update to the Maryland HIV/AIDS Epidemiological Profile contains only the five tables of adult/adolescent cases by jurisdiction. The full set of tables and figures by demographics and other descriptive variables will be available in the year-end fourth quarter report.

Laboratory Data

CD4 tests are measures of a person's immune system function. An HIV infected person is considered to have AIDS if they have less than 200 CD4 cells per microliter of blood. Viral load (VL) tests are measures of the amount of HIV in a person's body. The goal of HIV treatment is to have a very low number of copies of virus per milliliter of blood, below what the test can measure, which is called an undetectable level. Treatment recommendations are that a person in HIV medical care should have their CD4 and VL levels measured at least 2-3 times per year. We use the presence of these lab tests as an indicator that someone has been linked to care after diagnosis or is "in care".

Sources of Data

Information on HIV and AIDS diagnoses, including residence at diagnosis, vital status, and CD4 and HIV viral load test results are from the Maryland Department of Health and Mental Hygiene's Enhanced HIV/AIDS Reporting System (eHARS), March 31, 2012.

Population data are from the 2010 U.S. Census population counts for April 1, 2010.

Section II – Adult/Adolescent Cases by Jurisdiction

Table 1 – Adult/Adolescent HIV Cases by Jurisdiction, Diagnoses during 4/1/2010-3/31/2011

Age 13+ Population Census for 4/1/10, Number, Percent of Total, and Rate per 100,000 Population of Reported Adult/Adolescent HIV Cases, Age 13+ at HIV Diagnosis, with or without an AIDS Diagnosis, Diagnosed with HIV during 4/1/2010-3/31/2011 (Adult/Adolescent Reported HIV Diagnoses), Number and Percent by Jurisdiction of Adult/Adolescent Reported HIV Diagnoses with a First Reported CD4 Test Result in the 12 Months following HIV Diagnosis (First CD4 Test Result) and Median Count of the First CD4 Test Results, Percent by Jurisdiction of Adult/Adolescent Reported HIV Diagnoses with a Reported CD4 Test Result or a Reported HIV Viral Load Test Result in the 3 Months following HIV Diagnosis (Linked to Care), and Percent by Jurisdiction of Adult/Adolescent Reported HIV Diagnoses with an AIDS Diagnosis in the 12 Months following HIV Diagnosis (Late HIV Diagnosis), by Jurisdiction of Residence at HIV Diagnosis, as Reported by Name through 3/31/2012

JURISDICTION OF RESIDENCE AT HIV DIAGNOSIS	Population Age 13+	Adult/Adolescent Reported HIV Diagnoses							
		No.	% of Total	Rate	First CD4 Test Result			% Linked to Care	% Late HIV Diagnosis
	No.				No. with Test	% with Test	Median Count		
Allegany	65,601	2	0.2%	3.0	***	***	***	***	***
Anne Arundel	447,686	60	4.6%	13.4	51	85.0%	346	85.0%	38.3%
Baltimore City	523,467	389	29.7%	74.3	265	68.1%	343	64.8%	26.5%
Baltimore	680,268	253	19.3%	37.2	191	75.5%	308	73.5%	31.2%
Calvert	73,193	3	0.2%	4.1	***	***	***	***	***
Caroline	27,066	5	0.4%	18.5	4	80.0%	***	***	***
Carroll	139,228	2	0.2%	1.4	***	***	***	***	***
Cecil	83,349	5	0.4%	6.0	3	60.0%	***	***	***
Charles	119,995	18	1.4%	15.0	15	83.3%	239	72.2%	44.4%
Dorchester	27,586	8	0.6%	29.0	8	100.0%	239	87.5%	50.0%
Frederick	191,952	14	1.1%	7.3	10	71.4%	310	71.4%	28.6%
Garrett	25,663	0	0.0%	0.0	--	--	--	--	--
Harford	202,760	20	1.5%	9.9	12	60.0%	297	60.0%	25.0%
Howard	235,976	22	1.7%	9.3	12	54.5%	275	45.5%	31.8%
Kent	17,641	2	0.2%	11.3	***	***	***	***	***
Montgomery	805,472	132	10.1%	16.4	102	77.3%	294	62.1%	35.6%
Prince George's	717,186	280	21.4%	39.0	196	70.0%	279	65.4%	35.7%
Queen Anne's	39,893	3	0.2%	7.5	***	***	***	***	***
Saint Mary's	23,282	3	0.2%	12.9	***	***	***	***	***
Somerset	85,286	3	0.2%	3.5	***	***	***	***	***
Talbot	32,616	5	0.4%	15.3	4	80.0%	***	***	***
Washington	123,296	13	1.0%	10.5	12	92.3%	182	92.3%	69.2%
Wicomico	82,776	6	0.5%	7.2	6	100.0%	233	100.0%	66.7%
Worcester	44,977	3	0.2%	6.7	***	***	***	***	***
Corrections	--	58	4.4%	--	45	77.6%	519	77.6%	15.5%
TOTAL	4,816,215	1,309	100.0%	27.2	955	73.0%	322	68.4%	31.7%

*** Data withheld due to low population and/or case counts

Table 2 – Adult/Adolescent AIDS Cases by Jurisdiction, Diagnoses during 4/1/2010-3/31/2011

Age 13+ Population Census for 4/1/10, Number, Percent of Total, and Rate per 100,000 Population of Reported Adult/Adolescent HIV Cases, Age 13+ at HIV Diagnosis, with an AIDS Diagnosis, Diagnosed with AIDS during 4/1/2010-3/31/2011 (Adult/Adolescent Reported AIDS Diagnoses), and Average Years from HIV Diagnosis to AIDS Diagnosis, and Percent by Jurisdiction of Adult/Adolescent Reported AIDS Diagnoses with an HIV Diagnosis in the 12 Months preceding AIDS Diagnosis (Late HIV Diagnosis), by Jurisdiction of Residence at AIDS Diagnosis, as Reported by Name through 3/31/2012

JURISDICTION OF RESIDENCE AT AIDS DIAGNOSIS	Population Age 13+	Adult/Adolescent Reported AIDS Diagnoses				
	No.	No.	% of Total	Rate	Years from HIV Diagnosis	% Late HIV Diagnosis
Allegany	65,601	0	0.0%	0.0	--	--
Anne Arundel	447,686	52	6.0%	11.6	2.8	57.7%
Baltimore City	523,467	294	33.8%	56.2	4.9	35.4%
Baltimore	680,268	174	20.0%	25.6	3.6	53.4%
Calvert	73,193	0	0.0%	0.0	--	--
Caroline	27,066	3	0.3%	11.1	***	***
Carroll	139,228	2	0.2%	1.4	***	***
Cecil	83,349	3	0.3%	3.6	***	***
Charles	119,995	9	1.0%	7.5	0.7	88.9%
Dorchester	27,586	9	1.0%	32.6	6.1	44.4%
Frederick	191,952	4	0.5%	2.1	***	***
Garrett	25,663	0	0.0%	0.0	--	--
Harford	202,760	9	1.0%	4.4	4.8	55.6%
Howard	235,976	9	1.0%	3.8	0.5	77.8%
Kent	17,641	1	0.1%	5.7	***	***
Montgomery	805,472	66	7.6%	8.2	1.8	71.2%
Prince George's	717,186	180	20.7%	25.1	2.7	62.8%
Queen Anne's	39,893	2	0.2%	5.0	***	***
Saint Mary's	23,282	2	0.2%	8.6	***	***
Somerset	85,286	2	0.2%	2.3	***	***
Talbot	32,616	1	0.1%	3.1	***	***
Washington	123,296	13	1.5%	10.5	2.6	61.5%
Wicomico	82,776	7	0.8%	8.5	4.1	57.1%
Worcester	44,977	2	0.2%	4.4	***	***
Corrections	--	25	2.9%	--	6.0	28.0%
TOTAL	4,816,215	869	100.0%	18.0	3.7	51.4%

*** Data withheld due to low population and/or case counts

Table 3 – Adult/Adolescent HIV Cases by Jurisdiction, Alive on 3/31/2011

Age 13+ Population Census for 4/1/10, Number, Percent of Total, and Rate per 100,000 Population of Reported Adult/Adolescent HIV Cases, Age 13+ at HIV Diagnosis, with or without an AIDS Diagnosis and Not Reported to Have Died as of 3/31/2011 (Adult/Adolescent Living HIV Cases without AIDS, Living HIV Cases with AIDS, and Total Living HIV Cases), and Ratio of People per Case (1 case in every X people) for Total Living HIV Cases, by Jurisdiction of Residence at the Latter of HIV or AIDS Diagnosis, as Reported by Name through 3/31/2012

JURISDICTION OF RESIDENCE AT DIAGNOSIS	Population Age 13+	Adult/Adolescent Living HIV Cases without AIDS			Adult/Adolescent Living HIV Cases with AIDS			Adult/Adolescent Total Living HIV Cases			
	No.	No.	% of Total	Rate	No.	% of Total	Rate	No.	% of Total	Rate	Ratio (1 in X)
Allegany	65,601	37	0.3%	56.4	38	0.2%	57.9	75	0.3%	114.3	874
Anne Arundel	447,686	428	3.4%	95.6	642	3.7%	143.4	1,070	3.6%	239.0	418
Baltimore City	523,467	5,622	44.8%	1,074.0	7,479	43.2%	1,428.7	13,101	43.9%	2,502.7	39
Baltimore	680,268	1,114	8.9%	163.8	1,582	9.1%	232.6	2,696	9.0%	396.3	252
Calvert	73,193	41	0.3%	56.0	56	0.3%	76.5	97	0.3%	132.5	754
Caroline	27,066	31	0.2%	114.5	28	0.2%	103.5	59	0.2%	218.0	458
Carroll	139,228	57	0.5%	40.9	66	0.4%	47.4	123	0.4%	88.3	1,131
Cecil	83,349	45	0.4%	54.0	64	0.4%	76.8	109	0.4%	130.8	764
Charles	119,995	148	1.2%	123.3	161	0.9%	134.2	309	1.0%	257.5	388
Dorchester	27,586	32	0.3%	116.0	74	0.4%	268.3	106	0.4%	384.3	260
Frederick	191,952	126	1.0%	65.6	152	0.9%	79.2	278	0.9%	144.8	690
Garrett	25,663	2	0.0%	7.8	4	0.0%	15.6	6	0.0%	23.4	4,277
Harford	202,760	149	1.2%	73.5	216	1.2%	106.5	365	1.2%	180.0	555
Howard	235,976	187	1.5%	79.2	215	1.2%	91.1	402	1.3%	170.4	587
Kent	17,641	14	0.1%	79.4	20	0.1%	113.4	34	0.1%	192.7	518
Montgomery	805,472	1,272	10.1%	157.9	1,823	10.5%	226.3	3,095	10.4%	384.2	260
Prince George's	717,186	2,329	18.6%	324.7	3,240	18.7%	451.8	5,569	18.6%	776.5	128
Queen Anne's	39,893	15	0.1%	37.6	31	0.2%	77.7	46	0.2%	115.3	867
Saint Mary's	23,282	42	0.3%	180.4	56	0.3%	240.5	98	0.3%	420.9	237
Somerset	85,286	20	0.2%	23.5	30	0.2%	35.2	50	0.2%	58.6	1,705
Talbot	32,616	25	0.2%	76.6	30	0.2%	92.0	55	0.2%	168.6	593
Washington	123,296	157	1.3%	127.3	140	0.8%	113.5	297	1.0%	240.9	415
Wicomico	82,776	102	0.8%	123.2	116	0.7%	140.1	218	0.7%	263.4	379
Worcester	44,977	32	0.3%	71.1	46	0.3%	102.3	78	0.3%	173.4	576
Corrections	--	523	4.2%	--	1,013	5.8%	--	1,536	5.1%	--	--
TOTAL	4,816,215	12,550	100.0%	260.6	17,322	100.0%	359.7	29,872	100.0%	620.2	161

Table 4 – CD4 Testing for Adult/Adolescent HIV Cases by Jurisdiction, Alive on 3/31/2011

Number of Adult/Adolescent Reported HIV Cases, Age 13+ at HIV Diagnosis, with or without an AIDS Diagnosis and Not Reported to Have Died as of 3/31/2011 (Adult/Adolescent Total Living HIV Cases), Number and Percent by Jurisdiction of Adult/Adolescent Total Living HIV Cases with a Reported CD4 Test Result in the Previous 12 Months (Recent CD4 Test Result), and Median Count in Cells per Microliter and Percent Distribution by Jurisdiction of Counts for the Last Recent CD4 Test Results, by Jurisdiction of Residence at the Latter of HIV or AIDS Diagnosis, as Reported by Name through 3/31/2012

JURISDICTION OF RESIDENCE AT DIAGNOSIS	Adult/Adolescent Total Living HIV Cases							
	No.	Recent CD4 Test Result						
		No. with Test	% with Test	Median Count	<200	200-349	350-499	500+
Allegany	75	48	64.0%	573	14.6%	14.6%	10.4%	60.4%
Anne Arundel	1,070	536	50.1%	459	18.3%	18.8%	17.4%	45.5%
Baltimore City	13,101	6,446	49.2%	443	18.4%	18.8%	20.7%	42.1%
Baltimore	2,696	1,446	53.6%	461	19.7%	17.0%	18.9%	44.3%
Calvert	97	46	47.4%	457	15.2%	17.4%	21.7%	45.7%
Caroline	59	19	32.2%	610	***	***	***	***
Carroll	123	45	36.6%	449	13.3%	20.0%	26.7%	40.0%
Cecil	109	28	25.7%	389	14.3%	25.0%	28.6%	32.1%
Charles	309	124	40.1%	443	17.7%	21.8%	16.1%	44.4%
Dorchester	106	53	50.0%	391	26.4%	17.0%	15.1%	41.5%
Frederick	278	133	47.8%	511	8.3%	14.3%	26.3%	51.1%
Garrett	6	3	50.0%	***	***	***	***	***
Harford	365	176	48.2%	493	15.9%	16.5%	19.9%	47.7%
Howard	402	182	45.3%	536	14.3%	15.9%	15.9%	53.8%
Kent	34	17	50.0%	526	17.6%	11.8%	17.6%	52.9%
Montgomery	3,095	1,196	38.6%	465	13.1%	18.3%	24.7%	43.9%
Prince George's	5,569	1,996	35.8%	430	20.4%	17.1%	21.9%	40.5%
Queen Anne's	46	25	54.3%	372	16.0%	24.0%	24.0%	36.0%
Saint Mary's	98	48	49.0%	436	16.7%	25.0%	12.5%	45.8%
Somerset	50	21	42.0%	418	19.0%	23.8%	14.3%	42.9%
Talbot	55	28	50.9%	530	10.7%	10.7%	25.0%	53.6%
Washington	297	141	47.5%	518	12.8%	19.1%	16.3%	51.8%
Wicomico	218	87	39.9%	430	24.1%	23.0%	8.0%	44.8%
Worcester	78	35	44.9%	547	17.1%	14.3%	17.1%	51.4%
Corrections	1,536	803	52.3%	403	21.0%	20.5%	20.3%	38.1%
TOTAL	29,872	13,682	45.8%	446	18.3%	18.4%	20.6%	42.7%

*** Data withheld due to low population and/or case counts

Table 5 – HIV Viral Load Testing for Adult/Adolescent HIV Cases by Jurisdiction, Alive on 3/31/2011

Number of Adult/Adolescent Reported HIV Cases, Age 13+ at HIV Diagnosis, with or without an AIDS Diagnosis and Not Reported to Have Died as of 3/31/2011 (Adult/Adolescent Total Living HIV Cases), Number and Percent by Jurisdiction of Adult/Adolescent Total Living HIV Cases with a Reported HIV Viral Load Test Result in the Previous 12 Months (Recent Viral Load Test Result), Percent by Jurisdiction of the Last Recent Viral Load Test Results that were Undetectable, and the Median Detectable Result in Copies per Milliliter, by Jurisdiction of Residence at the Latter of HIV or AIDS Diagnosis, as Reported by Name through 3/31/2012

JURISDICTION OF RESIDENCE AT DIAGNOSIS	Adult/Adolescent Total Living HIV Cases				
	No.	Recent Viral Load Test Result			
		No. with Test	% with Test	% Un-detectable	Median Detectable
Allegany	75	48	64.0%	62.5%	3,423
Anne Arundel	1,070	471	44.0%	48.0%	845
Baltimore City	13,101	5,462	41.7%	42.7%	2,064
Baltimore	2,696	1,289	47.8%	45.5%	1,380
Calvert	97	44	45.4%	56.8%	10,850
Caroline	59	20	33.9%	45.0%	1,317
Carroll	123	47	38.2%	51.1%	663
Cecil	109	20	18.3%	60.0%	5,308
Charles	309	120	38.8%	54.2%	2,138
Dorchester	106	47	44.3%	51.1%	9,819
Frederick	278	111	39.9%	66.7%	130
Garrett	6	3	50.0%	***	***
Harford	365	171	46.8%	60.2%	924
Howard	402	170	42.3%	61.2%	408
Kent	34	17	50.0%	***	335
Montgomery	3,095	1,180	38.1%	65.0%	661
Prince George's	5,569	1,941	34.9%	52.4%	2,664
Queen Anne's	46	22	47.8%	54.5%	2,737
Saint Mary's	98	43	43.9%	46.5%	959
Somerset	50	22	44.0%	36.4%	4,451
Talbot	55	26	47.3%	69.2%	1,651
Washington	297	136	45.8%	71.3%	4,926
Wicomico	218	86	39.4%	47.7%	6,446
Worcester	78	30	38.5%	66.7%	708
Corrections	1,536	757	49.3%	47.0%	2,052
TOTAL	29,872	12,283	41.1%	48.7%	1,768

*** Data withheld due to low population and/or case counts